# Certificate IV in Computer Systems Technology (ICA41011)

The recommended Certificate IV study plan has the following key features:

* The recommended study plan will take a new student 9 – 12 months to complete.
* This is the preferred pathway for students wishing to study the Diploma of Networking or Advanced Diploma of Network Security
* There is a focus on the latest network technologies including Microsoft, Linux and CISCO as well as fundamental programming and web development skills
* There is a focus on Industry certifications and students will have the opportunity to gain a number of Industry certificates as well as the TAFE one.
* Student will be able to obtain a number of Skill sets without having to complete the whole certificate.

## Underpinning Skills and Knowledge

This is not an entry level course. There is an amount of assumed skills and knowledge prior to commence this course. To successfully enter at this level a student needs to have either:

* Completed the Certificate III in Information, Digital Media and Technology, or
* Completed other study equivalent to it, or
* Have work experience and knowledge equivalent to it.

## TAFE SA Recommended Study Plan for Full-Time Students

The following table shows the recommended study plan for the Certificate IV in Computer Systems Technology only using underpinning skills. Each stage is one Semester (or 6 months) in length for Full-Time students\*.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Stage 1 | | | Stage 2 | | |
| Term 1 | **Term 2** | | **Term 1** | | **Term 2** |
| 3WNF  3WHS^  3SWP^  4IVM | 4WAD | | 4HW  4LXA | | 4DTP  4C#B |
| Underpinning skill required but not in qualification | | | | | |
| 3WSF† | 4HTMLB †  3PRB † | 4JSB † | |  | |
| Semester | | | | | |
|  | 4CIN  4CEP^ | | | |  |
|  | | | 4WAP | | |
| Skill Sets | | | | | |
| Gain the   * *Certified Networking Technician Skill Set* | | | | | |
| Exit Qualifications | | | | | |
| Exit with the *Certificate IV in Information Computer Systems* | | | | | |

Students wishing to continue onto the Certificate IV or Diploma of Networking will only be required to do the highlighted subjects.

**Please Note: This program structure is subject to change.**

**The duration of the course will be dependent on the underlying skills the student has at the start of the course.**

**Legend:**

\* The length of time for Part-Time students will depend on the number of subjects studied in each semester.

^ These subjects are delivered in an external/online mode. Some other subjects maybe available in an external/online or blended delivery mode please check this with your lecturer at time of registration.

† Under pinning skills not required for Certificate IV qualification.

**How subjects are delivered and their duration will be dependent on campus specific scheduling issues.**

**Please contact your local TAFE for specific course schedules.**

## Certificate IV in Information Technology Networking (ICA40411)

**To receive the Award students need to complete the following subjects**

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| --- | --- | --- | --- | --- |
| Subject | National Code | Unit Name | Pre- Requisite | |
| 3WHS | **Workplace Health and Safety** | | | |
| BSBWHS304A | Participate effectively in WHS communication and consultative processes | N/A | |
| 3SWP | **Sustainable Work Practices** | | | |
| BSBSUS301A | Implement and monitor environmentally sustainable work practices | N/A | |
| 4CEP | **Copyright, Ethics and Privacy** | | | |
| ICAICT418A | Contribute to copyright, ethics and privacy in an IT environment | N/A | |
| 4HW | **Computer Hardware** | | | 3ITE or proof of equivalent knowledge |
| ICAICT421A | Connect, maintain and configure hardware components | |
| 4DTP | **Desktop Support** | | | 3ITE or proof of equivalent knowledge |
| ICASAS425A | Configure and troubleshoot operating system software | |
| Windows Technologies | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| 3WNF | Windows Networking Fundamentals | | |
| ICANWK305A | Install and manage network protocols**◦** | 3ITE or proof of equivalent knowledge |
| ICASAS307A | Install, configure and secure a small office home office network**◦** |
| ICANWK405A | Build a small wireless local area network **◦** |

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| --- | --- | --- | --- |
| 4WAD | Windows Active Directory | | |
| ICTTEN5201A | Install, configure and test a server | 3WSF, MTA 98-365, or proof of equivalent knowledge |
| ICANWK401A | Install and manage a server |
| ICAICT401A | Determine and confirm client business requirements |
| Linux Technologies | | | |
| 4LXA | **Linux Administration** | | |
| ICANWK408A | Configure desktop environment | 3ITE or proof of equivalent knowledge |
| ICANWK411A | Deploy software to networked computers |

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| --- | --- | --- | --- |
| CISCO Technologies | | | |
| 4CIN | **CISCO Introduction to Networks** | | |
| ICANWK404A | Install, operate and troubleshoot a small enterprise branch network | 3WNF, MTA 98-366, or proof of equivalent knowledge |
| ICTTEN4199A | Install, configure and test a router |
| ICTTEN4198A | Install, configure and test an internet protocol network |
| ICASAS426A | Locate and troubleshoot IT equipment, system and software faults |
| Virtualization Technologies | | | |
| 4IVM | **Install Virtual Machines** | | |
| ICANWK402A | Install and configure virtual machines for sustainable ICT | 3ITE or proof of equivalent knowledge |
| Programming | | | |
| 4C#B | **C#.NET Basics (Visual Studio 2010)** | | |
| ICAPRG410A | Build a user interface | 3PRB |
| ICAPRG414A | Apply introductory programming skills in another language |
| Website Development | | | |
| 4WAP | **Website Authoring and Programming (including Adobe Dreamweaver, WordPress and jQuery)** | | |
| ICAWEB410A | Apply web authoring tool to convert client data for websites | 4HTMLB, 4JSB |
| ICAWEB411A | Produce basic client side script for dynamic web pages |

**◦** Not Required competency for the Certificate IV in Computer Systems technology.

## Usual Pathway pre-requisites for people entering at this level

It is usual for students undertaking this course to have completed the **Certificate III in Information, Digital Media and Technology**. Student starting at this level will need to have done or demonstrated knowledge in the subjects below. These are linked to vendor specific skills and you cannot undertake vendor training at the higher level without having completed the lower level.

|  |  |  |  |
| --- | --- | --- | --- |
| Subject | National Code | Competency Name | Pre- Requisite |
| 3WSF | **Windows Server Fundamentals** | | |
| ICANWK304A | Administer network peripherals | 3ITE or proof of equivalent knowledge |
| ICANWK303A | Configure and administer a network operating system |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 3PRB | Programming Basics | | | | | |
| ICAPRG301A | | Apply introductory programming techniques | | N/A | |
| 4JSB | | **Javascript Basics** | | | | |
| ICAPRG405A | | Automate processes | | 3PRB |
| 4HTMLB | | **Hypertext Mark-up Language Basics** | | | | |
| ICAWEB429A | | Create a mark-up language document to specification | | N/A |
| ICAWEB409A | | Develop cascading style sheets | |

## Subject Descriptions

|  |  |
| --- | --- |
| Subject | Description |
| 4CEP | This subject involves maintaining professional and ethical conduct as well as to ensure that personal information of stakeholders is handled in a confidential and professional manner when dealing with stakeholders in an information technology (IT) environment. |
| 3WNF | This subject teaches students fundamental networking concepts. It covers the fundamentals of local area networking, defining networks with the OSI Model and understanding wired and wireless networks.  In addition it includes understanding Internet Protocol, implementing TCP/IP and working with networking services. It builds an understanding of Network Infrastructures, Network Hardware, and Protocols and Services. The subject is aligned to the Microsoft MTA 98 – 366 exam |
| 3WHS | This subject requires students to participate in workplace occupational health and safety (WHS) consultative processes. Consultative arrangements, also referred to as participative arrangements, give the students insights in WHS matters, and looks at the opportunity for stakeholders to participate in decisions that may impact on the WHS of the workplace. |
| 4IVM | This subject describes the performance outcomes, skills and knowledge required to develop and implement virtualisation technologies with the goal of providing a more sustainable information and communications technology (ICT) environment. This subject will introduce students to the concept of virtualization and virtualization products such as VMWare Workstation, Server, Player, MS Virtual PC, Hyper-V and Oracle Virtualbox |
| 4CIN | This subject prepares students for jobs as network technicians and helps them develop additional skills required for computer technicians and help desk technicians. It provides a basic overview of routing and switching, IP addressing and security. It also familiarises students with the OSI layer model as well as the TCP/IP protocol stack. Students learn about the soft skills required for help desk and customer service positions and the final chapter helps them prepare for the CCENT certification exam. Network monitoring and basic troubleshooting skills are taught in context. |
| 4WAD | This subject provides in-depth training on implementing, configuring, managing and troubleshooting Active Directory Domain Services (AD DS) in Windows Server 2012 and Windows Server 2012 R2 environments. It covers core AD DS concepts and functionality as well as implementing Group Policies, performing backup and restore and monitoring and troubleshooting Active Directory related issues. After completing this subject students will be able to configure AD DS in their Windows Server 2012 and Windows server 2012 R2 environments. This subject will This subject along 4WNI will assist students prepare for Microsoft 70-410 and 70-411 exam. |
| 4LXA | This subject will require students learn to be effective users of Linux systems, acquiring skills and understanding of command line functions, file systems, users and groups, bash shell, process management, text editors, network applications, searching and organizing data, and graphical applications. Students learn to be effective administrators of Linux systems, mastering tasks such as hardware and device configuration, file system management, user administration, network configurations, kernel services, attaching new Linux systems to a corporate network, configuring the new systems for end-users, and troubleshooting. |
| 4C#B | This subject covers the basics of user interface design, and how to plan, design, develop and build user-friendly programs targeting the Windows platform.  Modularised, event-driven applications, with an emphasis on robust and intuitive user interface design, are developed using Visual Studio 2010.C#.NET. |
| 4WAP | This subject covers two major areas: The development and use of templates to assist in web site creation; and using JavaScript to validate user input on HTML forms. | |

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| --- | --- |
| 4DTP | This subject defines the performance outcomes, skills and knowledge required to configure, maintain and troubleshoot operating system (OS) software to ensure organisational requirements and client needs are met. |
| 4HW | This subject describes the performance outcomes, skills and knowledge required to install, configure and maintain personal computer devices, including mobile devices according to client and user requirements. It provides an understanding of different types of available hardware components and peripherals, and gives an insight into their interconnectivity |

Students who complete the following competencies will be eligible to receive the Statement of Attainment for the following Skill Sets.

**Certified Networking Technician Skill Set**

|  |  |  |  |
| --- | --- | --- | --- |
| Subject | National  Code | Competency Name |  |
| 3WNF | **Windows Network Fundamentals** | | |
| ICANWK405A | Build a small wireless local area network |  |
| 4CIN | **Cisco Introduction to Networks** | | |
| ICANWK404A | Install, operate and troubleshoot a small enterprise branch network |  |
| ICTTEN4199A | Install, configure and test a router |

**Other skill sets may be available depending on the study path selected.**